

A COMPARATIVE STUDY OF SERUM CHOLINESTERASE AND LIVER FUNCTION TESTS IN LIVER DISEASE”

ABSTRACT

Background:

Serum cholinesterase is an enzyme which is synthesized by hepatocytes and its serum level reflects the liver synthetic function

Methodology:

75 patients of liver disease and 75 patients of non-liver disease underwent blood investigation (i.e. serum cholinesterase, Liver function tests, PT, INR) within a week of enrolment. The mean of lab parameters between two groups are compared. The correlation between serum cholinesterase and parameters of LFT in Liver disease group are studied by Pearson correlation coefficient. In chronic liver disease patients (liver disease group), correlation between serum cholinesterase and Child Turcotte Pugh class are also studied.

Results:

Mean serum cholinesterase of non - liver disease patients being 6494.21 ± 1269.16 u/l and mean of liver disease patients being 3816.53 ± 1414.51 u/l ($p < 0.001$). Serum cholinesterase below 4500 u/l has sensitivity 89.9 % and specificity of 97.33 % to diagnose liver disease. In chronic liver disease patients (liver disease group), the correlation coefficient, between serum cholinesterase and albumin was 0.702, -0.857 with child Pugh class, -0.452 with total bilirubin ($p < 0.001$). Mean serum

cholinesterase levels in Child Pugh class A was 5490.60, B was 4111.56, C was 2247.54.

Conclusion:

Serum cholinesterase can be used to distinguish between liver and non -liver disease, with good sensitivity and specificity. It shows good correlation with serum albumin, total bilirubin and Child Pugh class. Thus, there is significant correlation between serum cholinesterase with severity of chronic liver disease.

Keywords:

Serum cholinesterase, Liver function tests, sensitivity, specificity, Child Pugh class, correlation coefficient.